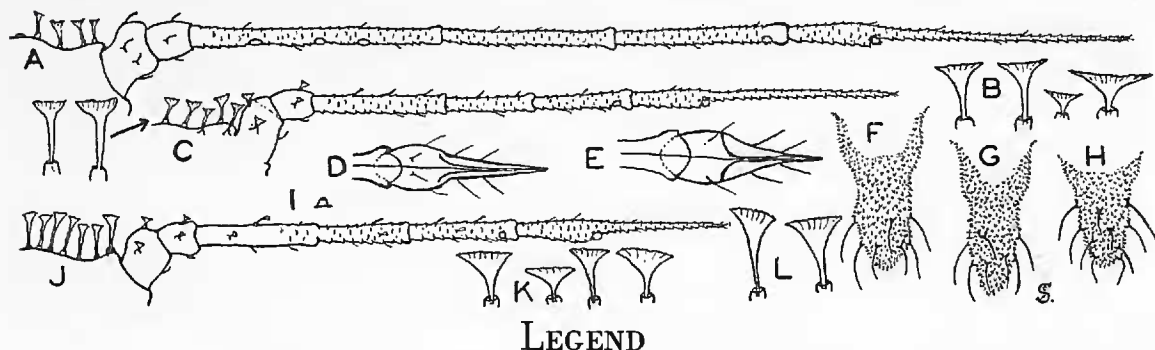


August 12, 1936 (Knowlton, Smith); Salt Lake City, April 25, 1936 (Smith); Spring City, August 11, 1936 (Knowlton, Smith).

Type in the U. S. National Museum. Paratypes in the G. F. Knowlton collection, and in the collection of the writer.



LEGEND

Fig. 1.—*Flabellomicrosiphum knowltoni* n. sp. Alata, A, F; Aptera, B-D, G, I; B, body hairs; I, cornicle. *F. tridentatae* (Wilson). Aptera, E, H, J-L; K, body hairs; L, hairs on vertex.

A NOTE ON GYRINID BEETLES FROM  
ESCUINTLA, GUATEMALA

BY F. X. WILLIAMS

The Gyrinidæ or Whiligid beetles are spectacular performers upon the surface of the water, and a company of these highly polished insects circling swiftly and in close formation upon a quiet pool, is something to look at and admire. In the well-shaded little Guachimtempeque stream a large gyrinid of the genus *Dineutes* was quite plentiful. Measuring up to nearly  $\frac{3}{4}$  of an inch long, broadly oval, convex, with the outer sides of the prothorax and of the wing covers flared so as to form a sort of gunwale, gleaming like burnished metal, each individual of the flotilla moves as if propelled by a powerful motor as with rapid strokes of short, paddle-like legs that are quite invisible from above, it glides in swift and graceful curves among its fellows. Or, undisturbed, the beetles ride carefree upon placid waters, or else there is lazy motion among them but, if alarmed there is tremendous and powerful activity; lightning-like gyrations, or the company breaks up, some dashing off to another part of the pool while others dive and swim swiftly under water.

In captivity we may study their curbed activities at closer range. There are lazy or swift movements, or a lull of a few moments. We note a curved fringe of white hair bordering the front of the head at the water line and that together with the very short antennæ may serve to inform the insect when it collides with something good to eat. Its vision is excellent, the compound

eyes being so divided as to enable it to see both above and beneath the water. A wounded insect dropped among the beetles may be quickly seized and devoured, a termite thus speedily disappearing, and a damselfly larva being partly consumed. When seizing prey or cleaning the fore part of the body, the relatively long forelegs, seeming perhaps to consist chiefly of elbows, are brought into play and now become visible from above. When not in use these legs are neatly folded back into a groove in the side of the thorax beneath and thus create little or no interruption in the streamline so necessary for smooth high speed.

The beetle flies well, but it crawls off the water in order to take wing.

The capacity for speed in the adult beetle is to some extent transmitted to its young<sup>1</sup> that leads an underwater life and swims with considerable swiftness by (vertical) undulations of its gill-fringed body. The larva of *Dineutes* and that of *Gyrinus*, its smaller and often more abundant relative, are much alike. In addition to being larger however, *Dineutes* differs from *Gyrinus* in having the first two of the ten pairs of abdominal filaments or gills, naked, whereas in *Gyrinus* all of the ten pairs of filaments are hair-fringed or plumose. By scooping up a lot of fine debris in a foot-depth of quiet water of a large pool on which *Dineutes* was present, I netted three rather delicately made though active centipede-like larvæ of a gyrid beetle—probably *Gyrinus*, as all ten pairs of filaments were plumose.

These lithe, slender insects had the head and thorax more or less contrastingly pallid or whitish, with the fronto-clypeal portion of the head, the eye area and the anterior portion of the strong prothoracic shield dark. The head is set on a rather narrow neck. The rest of the body is weakly chitinized, and it is closely speckled with gray, with a more or less broken dorsal and subdorsal stripe. At the caudal end of the body are four chitinous hooks. The chitinized fore part and the terminal hooks suggest a concealed existence, and indeed the larvæ spent a great part of their time more or less buried among the loose debris at the bottom of its prison. When disturbed they swam across the dish with really tremendous fish-like speed. Often one would be seen at the bottom of its prison undulating its body banner-like as though the air supply was poor. One of these larvæ moulted once and attained a length of about 15 mm., but none completed its transformations.